

REMARKS

The Examiner's comments from the final Office Action mailed July 24, 2008 have been carefully considered. Claims 23, 25, and 28-31 remain pending in the application. Claims 8-22 remain withdrawn. No new matter has been added.

Examination and allowance of the pending claims are respectfully requested.

Claim Rejections

Claim 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite. While not agreeing with the rejection, Applicants have removed the term "appropriate" from claim 28 to expedite prosecution in this case. Accordingly, Applicants request withdrawal of the rejection.

Claims 23, 25, and 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,217,334 to Hultgren et al. (hereinafter the "'334 reference'") in view of U.S. Publication No. 2002/0031743 to Kim (hereinafter the "'743 reference'") and further in view of U.S. Publication No. 2004/0017369 to Hultgren et al. (hereinafter the "'369 reference'"). Applicant respectfully traverses the rejection.

Claim 23 recites, in part, first and second scanning modules each including a plurality of alignment spheres configured to be scanned by the scanning device. The second scanning module is configured to couple selectively to the base plate module and to the first scanning module.

The cited references do not disclose or suggest first and second scanning modules each including a plurality of alignment spheres configured to be scanned by the scanning device. In addition, the cited references do not disclose or suggest a second scanning module that is configured to couple selectively to a base plate module and to a first scanning module.

The Office Action admits the '334 reference does not teach alignment spheres on the first scanning module. The Office Action also admits the '334 reference does not teach the second scanning module being configured to couple selectively to the base plate module and to the first scanning module. It is unclear whether the Office Action asserts the '334 reference teaches alignment spheres on a second scanning module. Applicants cannot find any such disclosure in the '334 reference.

Neither the '743 reference nor the '369 reference overcomes the shortcomings of the '334 reference. The '743 reference and the '334 reference also fail to disclose or suggest a first scanning module including a plurality of alignment spheres configured to be scanned by the scanning device. Applicants can find no disclosure of alignment spheres in the paragraphs of the '743 reference cited in the Office Action. Furthermore, attachment ball 88, which is disclosed in paragraphs [0075] and [0076] of the '743 reference, is not an alignment sphere as recited in claim 23. The attachment ball 88 is not configured to be scanned by the scanning device. Rather, the attachment ball 88 is inserted into an elongated part-cylindrical surface 54 of a socket member 52.

The '743 reference and the '369 reference also do not teach a second scanning module being configured to couple selectively to the base plate module and to the first scanning module. Kim does not even disclose a second scanning module configured to couple to a base plate module. Rather, a first dental cast support 12 attaches to a first articulator arm 22 and a second dental cast support 14 attaches to a second articulator arm 24, which interconnects with the first articulator arm 22. The '743 reference does not disclose coupling the second dental cast support 14 to a base plate module instead of to the first dental cast support 12 via the articulator arms. Moreover, Applicants respectfully point out that FIGS. 7 and 8 of the '743 reference show top and side views, respectively, of the lower support 14 from FIGS. 1 and 2. The lower support 14 is not shown attached to a base plate module in either of these figures.

For at least these reasons, the '334 reference would not lead a person skilled in the art to the invention of claim 23, even in view of the '743 reference and the '369 reference. Claim 25 depends from claim 23 and is allowable for at least the same reasons. Withdrawal of the rejection and allowance of claims 23-26 are respectfully requested. Applicant does not otherwise concede the correctness of the rejection and reserve the right to make additional arguments if necessary.

Claim 28 recites, in part, scanning the first physical model to obtain position data of the teeth of the lower jaw of the patient and position data of the alignment spheres; scanning the second physical model to obtain position data of the teeth of the upper jaw of the patient and position data of the alignment spheres; scanning one of the alignment spheres within the combined scanning apparatus; and transforming the scanned positional data of the first and second electronic models to generate a composite electronic model in a common coordinate system.

None of the cited references disclose or suggest scanning first and second physical models to obtain position data of alignment spheres. In fact, none of the cited references disclose first and second physical models each including multiple alignment spheres. Accordingly, none of the cited references disclose or suggest scanning one of the alignment spheres within a combined scanning apparatus formed by positioning each of the scanning plate modules to arrange the physical models relative to each other based on an interaction between teeth of a lower jaw and teeth of an upper jaw.

The Office Action admits the '334 reference does not disclose or suggest a first scanning plate module including a plurality of alignment spheres and a second scanning plate module including a plurality of alignment spheres. The Office Action further admits the '334 reference does not disclose or suggest scanning one of the alignment spheres within a combined scanning apparatus and transforming the scanned positional data to generate a composite electronic model in a common coordinate system.

Neither the '743 reference nor the '369 reference overcomes the shortcomings of the '334 reference. The '743 reference and the '334 reference also fail to disclose or suggest a first scanning plate module including a plurality of alignment spheres and a second scanning plate module including a plurality of alignment spheres. The '743 reference does not even disclose or suggest scanning the dental casts. Rather, the '743 reference is directed to forming a dental articulator.

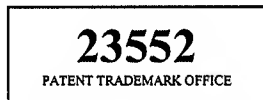
Furthermore, as noted above, neither the dental supports 12, 14 nor the articulator arms 22, 24 in the '743 reference appear to include alignment spheres. The attachment ball 88 of the '743 reference is not an alignment sphere as recited in claim 28. The '743 reference does not disclose obtaining position data relating to the attachment ball 88 or any other sphere. Further, a scanning device could not obtain position data relating to the attachment ball 88 since the attachment ball is inserted into a socket 52.

The '369 reference does not disclose or suggest scanning one of the alignment spheres and transforming scanned positional data based at least in part on the position data of the alignment sphere within the combined scanning apparatus. Rather, the '369 reference discloses generating an electronic model images from scanned positional data. Applicants respectfully point out that the data points discussed in paragraphs [0035]-[0041] and shown in FIG. 3B indicate data points obtained by a laser line scanner, not structural features on the object being scanned.

For at least these reasons, the '334 reference would not lead a person skilled in the art to the invention of claim 28, even in view of the '743 reference and the '369 reference. Claims 29-31 depends from claim 28 and is allowable for at least the same reasons. Withdrawal of the rejection and allowance of claims 28-31 are respectfully requested. Applicant does not otherwise concede the correctness of the rejection and reserve the right to make additional arguments if necessary.

CONCLUSION

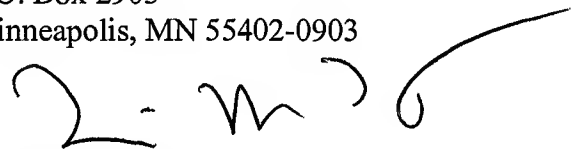
Applicant requests reconsideration and allowance of the application in view of the above amendments. If a phone conference would be helpful in resolving any issues related to this matter, please contact Applicant's attorney below at 612.336.4755.



Dated: 20 November 2008

Respectfully submitted,

MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, MN 55402-0903



Brian H. Batzli
Reg. No. 32,960
BHB/JKS